

REMARKS

Claims 1-11 are pending in this application. By this Amendment, claims 1 and 8-11 are amended. Support for the amendments to the claims may be found, for example, in the specification at paragraphs [0017]-[0020] and Figs. 4-6. No new matter is added.

In view of the foregoing amendments and following remarks, Applicants respectfully request reconsideration and allowance.

I. Rejection Under 35 U.S.C. §103

The Office Action rejects claims 1-11 under 35 U.S.C. §103(a) over European Patent 1,028,359 to Shiozawa et al. ("Shiozawa"). Applicants respectfully traverse the rejection.

Without conceding the propriety of the rejection, independent claims 1 and 8-11 are each amended to recite:

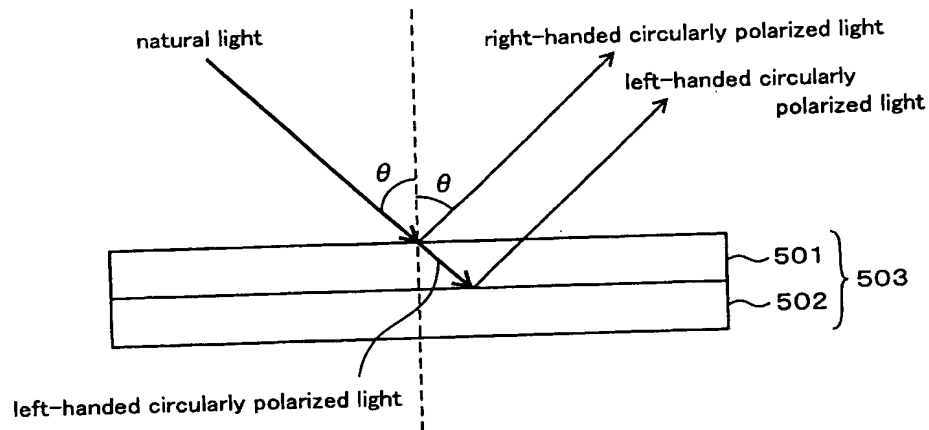
a cholesteric liquid crystal layer having a circular polarization light selectivity of reflecting predetermined circularly polarized light, the cholesteric liquid crystal layer having a side to which natural light may enter; and
 a multilayer film in which first light transparent films having a first refraction index and second light transparent films having a second refraction index are alternatively alternately laminated in thickness direction, the multilayer film provided to a side opposite to the side to which natural light may enter the cholesteric liquid crystal layer,
wherein the first light transparent film and the second light transparent film have an interface therebetween,
and the interface repeatedly exists.

Shiozawa would not have rendered obvious such discrimination mediums for at least the following reasons.

A. Failure to Disclose the Claimed Layer Positions and Multilayer Film

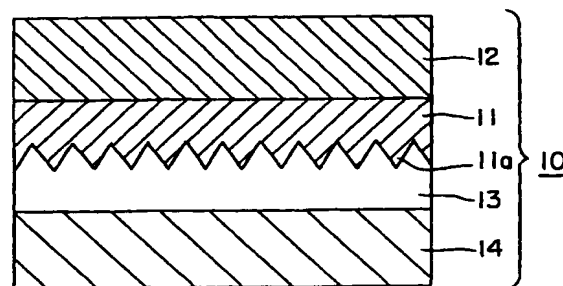
Shiozawa does not disclose the cholesteric liquid crystal layer and a multilayer film where: "the multilayer film [is] provided to a side opposite to the side to which natural light may enter of the cholesteric liquid crystal layer" as recited in claims 1 and 8-11. Figure 5

(below) represents a discrimination medium 503 wherein the cholesteric liquid crystal layer 501 and a multilayer 502 are laminated.



As shown, the cholesteric liquid crystal layer has a "side to which natural light may enter" as claimed. The multilayer film "wherein the first light transparent film ...; and the interface repeatedly exists" is "provided to a side opposite to the side to which natural light may enter of the cholesteric liquid crystal layer." See specification at paragraphs [0020]-[0021].

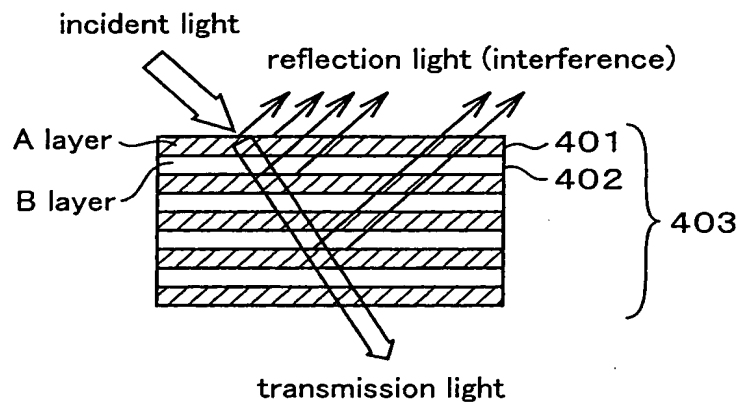
In contrast, Shiozawa discloses an authenticity film 10 that is formed by laminating a reflective film 11 (cholesteric liquid crystal layer), a protective film 12, a light absorbing layer 13, and a base film 14 that are different from each other. See Shiozawa at Fig. 1 (below).



Shiozawa does not teach or suggest the claimed positions of the cholesteric liquid crystal layer and multilayer film or "a multilayer film in which first light transparent films having a first refraction index and second light transparent films having a second refraction index are

alternately laminated in thickness direction...wherein the first light transparent film and the second light transparent film have an interface therebetween, and the interface repeatedly exists," as recited in claims 1 and 8-11.

Specifically, Figure 4 (below) represents a multilayer film 403 wherein the A layers 401 and the B layers 402 are alternately laminated. The A layers have a first refraction index and the B layers have a second refraction index.



When white light is irradiated on the multilayer film, incident light is reflected at the interfaces of the films differing in refraction index based on Fresnel's law. In the exemplary multilayer film of Figure 4, one portion of the incident light is reflected at the interface between the A layer and the B layer, and another portion of the incident light passes therethrough. Because each interface between the A layer and the B layer "repeatedly exists," interferences occur between reflection light at each interface.

Therefore, in the discrimination medium of claims 1 and 8-11, the larger the angle of the incident light, the shorter the optical path difference of the reflection light reflected by each interface. The interference of each light of the shorter wavelength occurs and the intensity of the light of the shorter wavelength is thereby increased. Thus, the more obliquely the multilayer film on which white light is viewed, the shorter the wavelength of the light that is strongly reflected by the multilayer film. For example, the more oblique the multilayer film

on which white light is irradiated, the more blue the reflection light becomes that is reflected by the multilayer film. This phenomenon is called "blue shift." Shiozawa does not teach or suggest, or established any reason or rationale to provide, such a combination of features and, thus, would not have rendered obvious claims 1 and 8-11.

B. Effects of the Claimed Discrimination Medium

The effects of the discrimination medium of claims 1 and 8-11 are not disclosed in Shiozawa.

Shiozawa does not disclose a discrimination medium wherein when natural light is irradiated on the discrimination medium, the reflection light includes right-handed circularly polarized light and left-handed circularly polarized light. In addition, nowhere does Shiozawa disclose a cholesteric liquid crystal layer that selectively reflects "predetermined circularly polarized light" and a multilayer film that does not selectively reflect circularly polarized light having a circular polarization direction opposite to that of the predetermined circularly polarized light. *See* specification at paragraphs [0021]-[0027].

In other words, Shiozawa fails to disclose the combined effect of the claimed cholesteric liquid crystal layer and a multilayer film where the right-handed circularly polarized light and the left-handed circularly polarized light is reflected. *See* specification at paragraphs [0021]-[0027].

Because blue shift is combined the above unique optical effects, the resultant discrimination medium has optical effects that can be discriminated. Additionally, falsification of the claimed discrimination medium is difficult because the optical effects are difficult to reproduce by reverse engineering. These same effects would not have been obvious to one of ordinary skill in the art at the time of invention in light of Shiozawa.

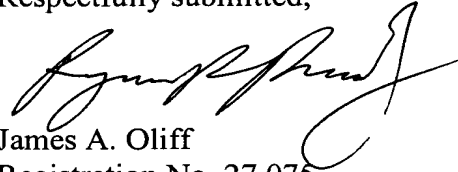
Accordingly, for at least the reasons presented above, claims 1 and 8-11 would not have been rendered obvious by Shiozawa. Claims 2-7 depend from claim 1 and, thus, also would not have been rendered obvious by Shiozawa. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

II. Conclusion

In view of the foregoing, Applicants respectfully submit that this application is in condition for allowance. Applicants earnestly solicit favorable reconsideration and prompt allowance of the application.

Should the Examiner believe that anything further would be desirable to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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